THE FOLLOWING ARE THE ENGLISH TRANSLATION
OF ANNEXES TO THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT (ARTICLE 34):

Amended Sheets (Pages 7-8, 30-36)

(ii) the intensity (marginal default probability) $\lambda(X_t)$ for two parties receiving credit is selected identically but the jump events are stochastically independent of one another. This method can be applied both to the case where the intensity is described by a deterministic function and to the case of stochastic intensities; (iii) the intensity $\lambda(X_t)$ is modeled as a stochastic process in that a stochastic process is used for X_t. If the intensities of two parties receiving credit each λ_1, λ_2 depend at least partially on the same elements of the vector of the state variables X_t, the default probabilities of the parties receiving credit are correlated. The default rates of different parties receiving credit are then not identical but they have a correlation structure which can map the empirically observed synchronism of the development of the default rates. In these methods, the arbitrage-free evaluation approaches by Jarrow/Turnbull, Jarrow/Lando/Turnbull, Duffie/Singleton and Madan/Unal based on Poisson processes, in particular, can be used for evaluation of a credit portfolio and for determining the value at risk. In practice, these methods of the prior art have

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hardly been used until today. The great disadvantage of
these methods lies in their high degree of complexity
and the large data requirements for an empirical
calibration of the methods. These disadvantages have
been preventing their use in banks or other creditors
or generally in practice until today. As in the methods
of the first category described above, it is not
possible to get by without an empirical estimation of
correlation-determining parameters in these methods
which additionally makes it difficult or impossible to
automate the method. US disclosure document
US 2003/0018550 A1 shows a system of the prior art in
which financial transactions (real time transaction
records) between various companies are monitored and
analyzed in that transactions at service providers are
acquired by credit companies such as e.g. credit card
service providers, accumulated via a network and
analyzed by means of a central unit based on a neural
network.

In principle, neural networks are known in the prior
art and are used, e.g. for solving optimization tasks,
pattern recognition, in artificial intelligence etc.
Corresponding to biological nerve networks, a neural
network consists of a multiplicity of network nodes,
so-called neurons, which are connected to one another
via weighted connections (synapses). The neurons are
organized in network layers and interconnected. The
individual neurons are activated in dependence on their
input signals and generate a corresponding output
signal. The activation of a neuron takes place via an
individual

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Claims

1.   A system for automated credit risk indexing which
comprises means (30) for acquiring and evaluating
company balance data and/or stock market data and a
memory module (31), in which predefined stock market
data (3111/3121) and/or company balance data
(3112/3122) can be stored correlated with the
individual companies (601/602/603), by means of which
at least expected values for crediting data of
individual companies (601,...,603) can be determined,
characterized in that

the system comprises a filter module (34) for the
automated company-related acquisition of stock market
data (3111/3121) of various financial centers
(50/51/52),

the system comprises a filter module (35) for the
automated company-related acquisition of company
balance data (3112/3122) from at least one
corresponding memory module (61),

at least one of the filter modules (34/35) comprises a
definable time interval which determines an expected
interval between the expected values to be calculated
and the company balance data (3112/3122) and/or stock
market data (3111/3121) of the individual companies
(601/602/603), and

the system for automated determination of the crediting
data and/or the expected values for the crediting data
on the basis of the stock market data (3111/3121)
and/or the company balance data (3112/3122) of a
particular company (601,...,603) comprises at least one
neural network module (33).

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2.   The computer-aided system as claimed in claim 1, characterized in that the at least one neural network module (33) comprises at least one neural network with a feedforward structure.

3.   The computer-aided system as claimed in one of claims 1 or 2, characterized in that training input values of the at least one neural network module (33) comprise the stock market data (3111/3121) and/or the company balance data (3112/3122) and corresponding training output values comprise a credit rating of the corresponding companies (601/602/603).

4.   The computer-aided system as claimed in one of claims 1 to 3, characterized in that the input values of the at least one neural network (33) comprise interest coverage and/or ratio of debt to total assets and/or earnings growth and/or total debt and/or market capitalization of equity and/or volatility of equity and/or ratio of debt to market capitalization of equity of the respective company (601/602/603).

5.   The computer-aided system as claimed in one of claims 1 to 4, characterized in that the crediting data comprise at least one credit risk index for the corresponding company (601/602/603).

6.   The computer-aided system as claimed in one of claims 1 to 5, characterized in that the system comprises one or more network units (10/11/12/14/15) by means of which a user (20,...,24) can access user profiles (3220,...,3224) allocated to him and stored in a user database (32) via a communication channel (40/41) and/or send a crediting request to the computing unit (30).

7.   The computer-aided system as claimed in claim 6,
characterized in that by means of the user profiles
(3220,...,3224), it is possible for the respective user
(20,...,24) to define which companies (601,...,603)
5   and/or financial markets (50/51/52) and/or title
categories are to be taken into consideration for
determining the crediting data.

8.   The computer-aided system as claimed in one of
10   claims 6 or 7, characterized in that the communication
channel (40/41) comprises the international backbone
network Internet.

9.   The computer-aided system as claimed in one of
15   claims 6 or 7, characterized in that the communication
channel (40/41) comprises a mobile radio network,
particularly a GSM and/or a UMTS mobile radio network
and/or a WLAN.

20   10.   A computer-aided system, characterized in that the
system comprises a number of modules and/or systems for
calculating crediting data and/or credit risks of
individual companies (601,...,603) as claimed in one of
claims 1 to 9 and that the system comprises at least
25   one additional neural network module for determining a
credit portfolio risk and/or default correlation risk
on the basis of the crediting data and/or credit risks
of individual companies (601,...,603), the input data
of the at least one additional neural network module
30   comprising output data of the modules for determining
crediting data and/or expected values of crediting data
of individual companies (601,...,603).

11.   The computer-aided system as claimed in claim 10,
35   characterized in that the at least one additional
neural network module has a feedforward structure.

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12. A computer-aided method for automated credit risk indexing, in which company balance data and/or stock market data are acquired and evaluated, expected values being calculated for crediting data of individual companies (601,...,603), characterized in that

stock market data (3111/3121) of various financial centers (50/51/52) are automatically acquired company-related by means of a filter module (34) and are stored predefined correlated with the individual companies (601,...,603) in a memory module (31),

company balance data (3112/3122) are automatically acquired company-related from at least one corresponding memory module (61) by means of a filter module (35) and are stored predefined correlated with the individual companies (601,...,603) in a memory module (31),

in at least one of the filter modules (34/35), a time interval is defined which determines an expected interval between the expected values to be calculated and the company balance data (3112/3122) and/or stock market data (3111/3121) of the individual companies (601/602/603), and

the expected values of the crediting data are determined by means of a neural network module (33) on the basis of the stock market data (3111/3121) and/or the company balance data (3112/3122) of a particular company (601,...,603).

13. The computer-aided method as claimed in claim 12, characterized in that a neural network module having a feedforward structure is used as the at least one neural network module (33).

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14. The computer-aided method as claimed in one of claims 12 or 13, characterized in that the stock market data (3111/3121) and/or the company balance data (3112/3122) are used as training input values of the at

5   least one neural network module (33) and correspondingly an associated credit rating of the corresponding companies (601/602/603) is used as training output values.

10   15. The computer-aided method as claimed in one of claims 12 to 14, characterized in that as input parameters of the at least one neural network module (33), data based on interest coverage and/or ratio of debt to total assets and/or earnings growth and/or

15   total debt and/or market capitalization of equity and/or volatility of equity and/or ratio of debt to market capitalization of equity of the respective company (601/602/603) are used.

20   16. The computer-aided method as claimed in one of claims 12 to 15, characterized in that the crediting data and/or expected values for crediting data comprise at least one credit risk index for the corresponding company (601/602/603).

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17. The computer-aided method as claimed in one of claims 12 to 16, characterized in that by means of the network units (10/11/12/30/31), a user profile (3220,...,3224) stored in a user database (32) is

30   accessed by an allocated user (20,...,24) via a communication channel (40/41) and/or a crediting request is sent to the computing unit (30).

18. The computer-aided method as claimed in claim 17,

35   characterized in that the user profiles (3220,...,3224) for the respective user (20,...,24) are used for determining which companies (601,...,603) and/or

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financial markets (50,...,52) and/or title categories
are used for determining the crediting data.

19. The computer-aided method as claimed in one of
5   claims 17 or 18, characterized in that the
communication channel (40/41) comprises the
international backbone network Internet.

20. The computer-aided method as claimed in one of
10 claims 17 or 18, characterized in that the
communication channel (40/41) comprises a mobile radio
network, particularly a GSM and/or a UMTS mobile radio
network and/or a WLAN.

15 21. The computer-aided method, characterized in that
by means of a number of modules and/or systems,
crediting data and/or credit risks of individual
companies (601,...,603) are determined in accordance
with one of claims 1 to 9, and by means of at least one
20 additional neural network, credit portfolio risks
and/or default correlation risks are determined on the
basis of the crediting data and/or credit risks of the
individual companies (601,...,603), the input data of
the at least one additional neural network comprising
25 output data of the modules for calculating crediting
data of individual companies (601,...,603).

22. The computer-aided method as claimed in claim 21,
characterized in that the at least one additional
30 neural network module has a feedforward structure.

23. A computer program product which comprises a
computer-readable medium with computer program code
means contained therein for controlling one or more
35 processors of a computer-based system for automated
credit risk indexing, wherein expected values for
crediting data of individual companies (601,...,603)

are calculated on the basis of company balance data
and/or stock market data, characterized in that

5   by means of the computer program product, at least one
neural network module can be generated in software and
used for the automated determination of the crediting
data and/or expected values for crediting data.

24.   The computer program product which comprises a
10   computer-readable medium with computer program code
means contained therein for controlling one or more
processors of a computer-based system for automated
credit indexing, wherein the computer program product
for calculating crediting data of individual companies
15   (601,...,603) comprises computer program products as
claimed in one of claims 1 to 12, characterized in that

by means of the computer program product, at least one
additional neural network module can be generated in
20   software for determining a credit portfolio risk on the
basis of the crediting data of individual companies
(601,...,603), the input data of the at least one
additional neural network module comprising output data
of the neural network modules for calculating crediting
25   data and/or expected values of crediting data of
individual companies (601,...,603).

25.   The computer program product which can be loaded
into the internal memory of a digital computer and
30   comprises software code sections by means of which the
steps according to one of claims 12 to 22 can be
carried out when the product is running on a computer,
wherein the neural network modules can be generated in
software and/or hardware.

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